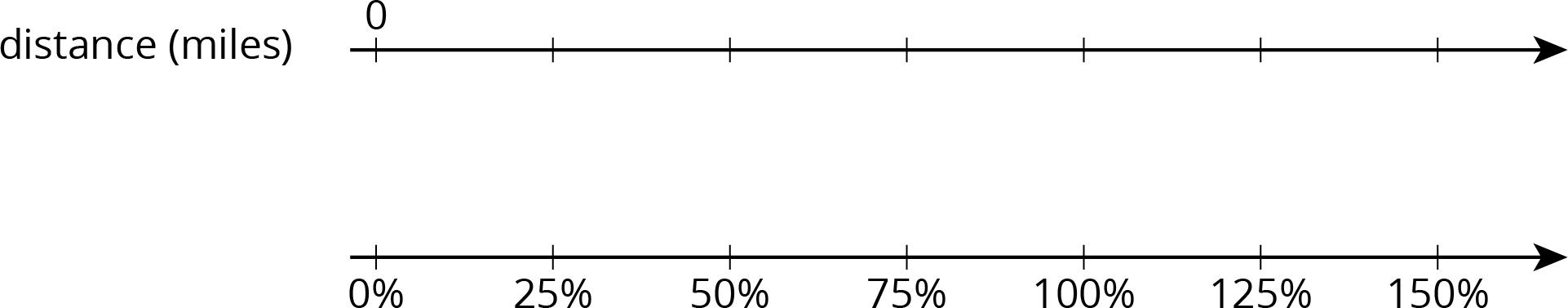
## Unit 3, Lesson 11: Percentages and Double Number Lines

Let’s use double number lines to represent percentages.

### 11.2: Three-Day Biking Trip

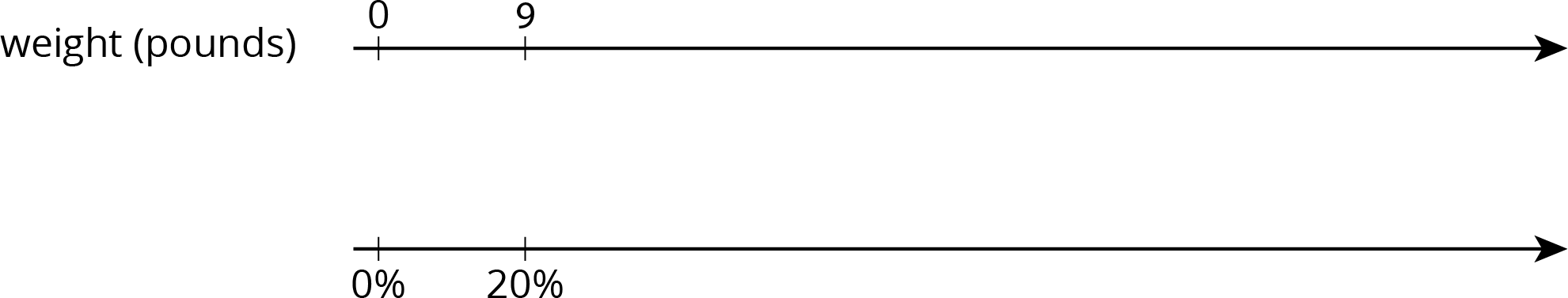
Elena biked 8 miles on Saturday. Use the double number line to answer the questions. Be prepared to explain your reasoning.



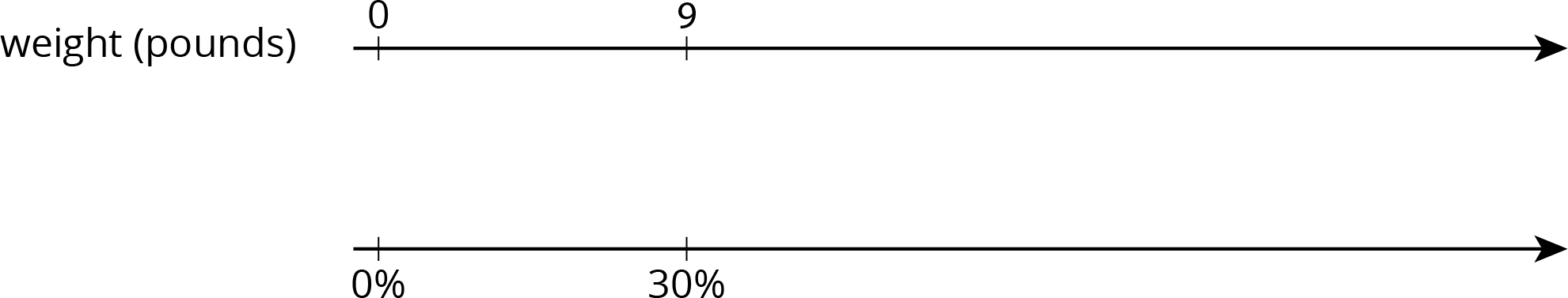
1. What is 100% of her Saturday distance?
2. On Sunday, she biked 75% of her Saturday distance. How far was that?
3. On Monday, she biked 125% of her Saturday distance. How far was that?

### 11.3: Puppies Grow Up

1. Jada has a new puppy that weighs 9 pounds. The vet says that the puppy is now at about 20% of its adult weight. What will be the adult weight of the puppy?

* 

1. Andre also has a puppy that weighs 9 pounds. The vet says that this puppy is now at about 30% of its adult weight. What will be the adult weight of Andre’s puppy?

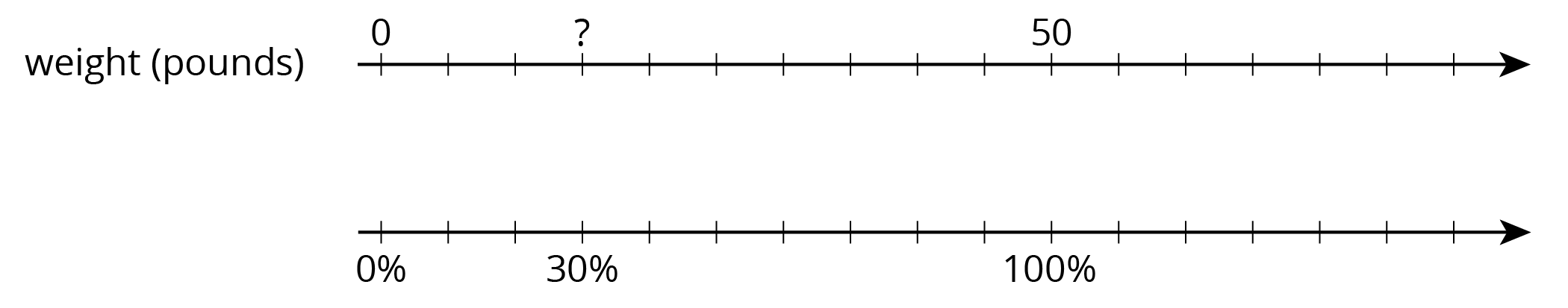
* 

1. What is the same about Jada and Andre’s puppies? What is different?

#### 

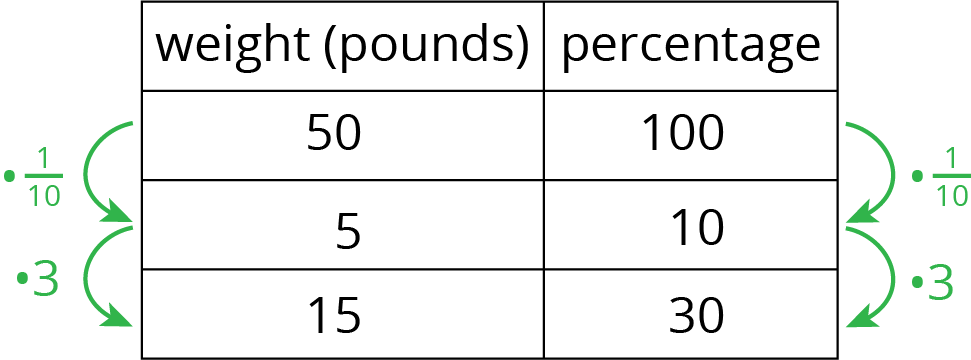
### Lesson 11 Summary

We can use a double number line to solve problems about percentages. For example, what is 30% of 50 pounds? We can draw a double number line like this:

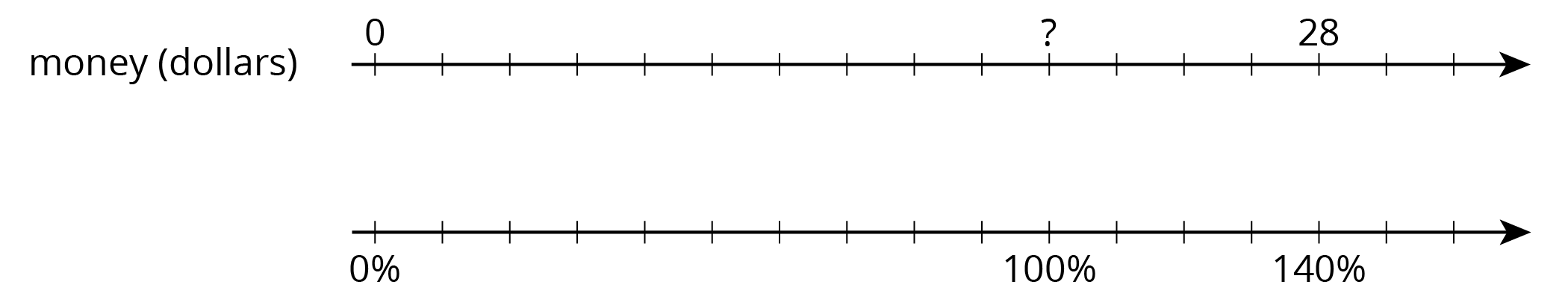


We divide the distance between 0% and 100% and that between 0 and 50 pounds into ten equal parts. We label the tick marks on the top line by counting by 5s () and on the bottom line counting by 10% (). We can then see that 30% of 50 pounds is 15 pounds.

We can also use a table to solve this problem.



Suppose we know that 140% of an amount is $28. What is 100% of that amount? Let’s use a double number line to find out.



We divide the distance between 0% and 140% and that between $0 and $28 into fourteen equal intervals. We label the tick marks on the top line by counting by 2s and on the bottom line counting by 10%. We would then see that 100% is $20.

Or we can use a table as shown.

